

group V PLA₂ (T-20): sc-55887

BACKGROUND

Phospholipase A₂s (PLA₂s) constitute a family of esterases that hydrolyze the sn-2 acyl ester bond in glycerophospholipid molecules. These enzymes are generally calcium-dependent and have been found both intra- and extracellularly. By hydrolyzing the sn-2 bond in glycerophospholipids, PLA₂s release fatty acids. One such fatty acid, arachidonic acid, generates the substrates for the initiation of the arachidonic acid cascade that produces various eicosanoids (i.e., prostaglandins, leukotrienes and thromboxanes), many of which are potent mediators of inflammation. PLA₂s include both the relatively low molecular weight group I, group II and group V enzymes and the form known as cytoplasmic PLA₂ (cPLA₂). cPLA₂ is present in macrophages, and hydrolyzes the sn-2 fatty acyl ester bond of phospholipids to produce a free fatty acid and a lysophospholipid.

REFERENCES

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2. Clark, J.D., Milona, N. and Knopf, J.L. 1990. Purification of a 110 kDa cytosolic phospholipase A₂ from the human monocytic cell U937. *Proc. Natl. Acad. Sci. USA* 87: 7708-7712.
3. Dennis, E.A. 1990. Phospholipase A₂: role and function in inflammation. *Adv. Exp. Med. Biol.* 275: 1-25.
4. Henrikson, R.L. and Kezdy, F. 1990. A novel bifunctional mechanism of surface recognition by phospholipase A₂. *Adv. Exp. Med. Biol.* 279: 37-47.
5. Sharp, J.D., White, D.L., Chiou, X.G., Goodson, T., Gamboa, G.C., McClure, D., Burgett, S., Hoskins, J., Skatrud, P.L., Sportsman, J.R., Becker, G.W., Kang, L.H., Roberts, E. and Kramer, R.M. 1991. Molecular cloning and expression of human Ca²⁺-sensitive cytosolic PLA₂. *J. Biol. Chem.* 266: 14850-14853.
6. Mukherjee, A.B., Cordella-Miele, E. and Miele, L. 1992. Regulation of extracellular phospholipase A₂ activity: implications for inflammatory diseases. *DNA Cell Biol.* 11: 233-243.

CHROMOSOMAL LOCATION

Genetic locus: Pla2g5 (mouse) mapping to 4 D3.

SOURCE

group V PLA₂ (T-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of group V PLA₂ of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-55887 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

group V PLA₂ (T-20) is recommended for detection of group V PLA₂ of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for group V PLA₂ siRNA (m): sc-62825, group V PLA₂ siRNA (r): sc-270119, group V PLA₂ shRNA Plasmid (m): sc-62825-SH, group V PLA₂ shRNA Plasmid (r): sc-270119-SH, group V PLA₂ shRNA (m) Lentiviral Particles: sc-62825-V and group V PLA₂ shRNA (r) Lentiviral Particles: sc-270119-V.

Molecular Weight of group V PLA₂: 14 kDa.

Positive Controls: A-10 cell lysate: sc-3806.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Wei, Y., Epstein, S.P., Fukuoka, S., Birmingham, N.P., Li, X.M. and Asbell, P.A. 2011. sPLA₂-IIa amplifies ocular surface inflammation in the experimental dry eye (DE) BALB/c mouse model. *Invest. Ophthalmol. Vis. Sci.* 52: 4780-4788.
2. Wei, Y., Pinhas, A., Liu, Y., Epstein, S., Wang, J. and Asbell, P. 2012. Isoforms of secretory group two phospholipase A (sPLA₂) in mouse ocular surface epithelia and lacrimal glands. *Invest. Ophthalmol. Vis. Sci.* 53: 2845-2855.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.



Try **group V PLA₂ (C-4): sc-393606** or **group V PLA₂ (3G1): sc-18828**, our highly recommended monoclonal alternatives to group V PLA₂ (T-20).